

# **PHOTOCATALYTIC NANO-CRYSTALLINE $\text{TiO}_2$ THIN FILMS, METHOD FOR PREPARING THE SAME AND USE THEREOF**

## Abstract of the Disclosure

The preferred embodiments provide for a process for preparing a  $\text{TiO}_2$  thin film. The preferred embodiments also provide for  $\text{TiO}_2$  thin films prepared by the process herein, and a method of using  $\text{TiO}_2$  thin films for killing bacteria and viruses in an environment under ultraviolet irradiation. The  $\text{TiO}_2$  thin films according to the invention have higher photocatalytic activity, and can particularly be used to photocatalytically degrade organic pollutants in air to hereby kill bacteria and viruses therein.

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